

IN THE CLAIMS:

Specific Instructions for Claim Amendments

Please cancel Claims 1-23, without prejudice to or disclaimer of the subject matter therein.

Please add the following new Claims 24-46.

Listing of Claims

1-23. (Cancelled)

24. (New) A cysteine variant of granulocyte-macrophage colony-stimulating factor of SEQ ID NO: 8, wherein a cysteine residue is inserted preceding the first amino acid of granulocyte-macrophage colony-stimulating factor; wherein the variant has biological activity *in vitro* as measured by proliferation of a cell line that proliferates in response to granulocyte-macrophage colony-stimulating factor.

25. A cysteine variant of granulocyte-macrophage colony-stimulating factor of SEQ ID NO: 8, wherein a cysteine residue is inserted following the last amino acid of granulocyte-macrophage colony-stimulating factor; wherein the variant has biological activity *in vitro* as measured by proliferation of a cell line that proliferates in response to granulocyte-macrophage colony-stimulating factor.

26. A cysteine variant of granulocyte-macrophage colony-stimulating factor of SEQ ID NO: 8, wherein a cysteine residue is inserted between at least one pair of two adjacent amino acids located in at least one region of granulocyte-macrophage colony-stimulating factor selected from the group consisting of: the A-B loop, the B-C loop, the C-D loop, the first three or last three amino acids in helix A, the first three or last three amino acids in helix B, the first three or last three amino acids in helix C, the first three or last three amino acids in helix D, the region preceding helix A, and the region following helix D; wherein the variant has biological activity *in vitro* as measured by proliferation of a cell line that proliferates in response to granulocyte-macrophage colony-stimulating factor.

27. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in the region of granulocyte-macrophage colony-stimulating factor preceding helix A.

28. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in the region of granulocyte-macrophage colony-stimulating factor following helix D.

29. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in the A-B loop of granulocyte-macrophage colony-stimulating factor.

30. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in the B-C loop of granulocyte-macrophage colony-stimulating factor.

31. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in the C-D loop of granulocyte-macrophage colony-stimulating factor.

32. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in at least one region of granulocyte-macrophage colony-stimulating factor selected from the group consisting of the first three amino acids in helix A and the last three amino acids in helix A.

33. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in at least one region of granulocyte-macrophage colony-stimulating factor selected from the group consisting of the first three amino acids in helix B and the last three amino acids in helix B.

34. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in at least one region of granulocyte-macrophage colony-stimulating factor selected from the group consisting of the first three amino acids in helix C and the last three amino acids in helix C.

35. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between two adjacent amino acids located in at least one region of granulocyte-macrophage colony-stimulating factor selected from the group consisting of the first three amino acids in helix D and the last three amino acids in helix D.

36. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the region preceding helix A and the region consisting of the first three amino acids in helix A.

37. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the A-B loop and the region consisting of the last three amino acids in helix A.

38. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the A-B loop and the region consisting of the first three amino acids in helix B.

39. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the B-C loop and the region consisting of the last three amino acids in helix B.

40. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the B-C loop and the region consisting of the first three amino acids in helix C.

41. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the C-D loop and the region consisting of the last three amino acids in helix C.

42. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the C-D loop and the region consisting of the first three amino acids in helix D.

43. The cysteine variant according to claim 26, wherein a cysteine residue is inserted between the region following helix D and the region consisting of the last three amino acids in helix D.

44. The cysteine variant according to any one of claims 24 to 26, wherein the inserted cysteine residue is modified with a cysteine-reactive moiety.

45. The cysteine variant according to any one of claims 24 to 26, wherein the inserted cysteine residue is modified with polyethylene glycol.

46. The cysteine variant according to any one of claims 24 to 26, wherein the cysteine variant is modified with at least one polyethylene glycol.